AMENDMENTS TO THE SPECIFICATION:

Page 1, please add the following new paragraph before paragraph [0001]:

[0000.2] CROSS-REFERENCE TO RELATED APPLICATIONS

[0000.4] This application is a 35 USC 371 application of PCT/DE 2004/001254 filed on June 17, 2004.

[0000.6] BACKGROUND OF THE INVENTION

Please add the following new paragraphs after paragraph [0001]:

[0001.2] This invention relates to switching valves, and more particularly to an improved switching valve with pressure compensation for a fuel injector with a pressure booster.

[0001.4] Description of the Prior Art

Please replace paragraph [0002] with the following amended paragraph:

[0002] For introducing fuel into the combustion chambers of direct-injection internal combustion engines, **it is known to use** stroke-controlled injection systems with a high-pressure storage chamber (common rail) ~~are used~~. The advantage of these injection systems is that the ~~injection~~ pressure **of fuel injected** into the combustion chamber can be adapted to the load and the rpm of the engine over wide ranges. For reducing emissions and attaining high specific performance, a high injection pressure is necessary. The attainable pressure level of high-pressure fuel pumps is limited for reasons of strength, so that for further increasing the pressure in fuel injection systems, pressure boosters in the fuel injectors are employed.

Please delete paragraph [0003].

Page 4, please replace paragraph [0008] with the following amended paragraph:

[0008] ~~Summary of the Invention~~ **SUMMARY OF THE INVENTION**

Page 5, please replace paragraph [0012] with the following amended paragraph:

[0012] ~~Drawing~~ **BRIEF DESCRIPTION OF THE DRAWINGS**

Please replace paragraph [0013] with the following amended paragraph:

[0013] The invention will be described in further detail below in conjunction with the ~~drawing.~~ **drawings, in which:**

Please delete paragraph [0014].

Please replace paragraph [0015] with the following amended paragraph:

[0015] Fig. 1[[,]] **is a sectional view schematically showing** a fuel injector with a pressure booster, which is controlled via the differential pressure chamber and is switched via a direct-switching 3/2-way valve; [[and]]

Page 6, please replace paragraph [0016] with the following amended paragraph:

[0016] Fig. 2[[,]] **is a view similar to Fig. 1, and showing** a further variant embodiment of a fuel injector, whose 3/2-way switching valve has a valve needle on which an extension is embodied in the region of the low- pressure chamber of the switching valve; and

Please replace paragraph [0017] with the following amended paragraph:

[0017] Fig. 3[[,]] **is a sectional view schematically showing** a valve housing in multiple parts of a direct-switching 3/2-way valve.

Please replace paragraph [0018] with the following amended paragraph:

[0018] ~~Variant Embodiments~~ **DESCRIPTION OF THE PREFERRED EMBODIMENTS**

Please replace paragraph [0020] with the following amended paragraph:

[0020] Via a pressure source 1, which may for example be a high-pressure reservoir (common rail) of a fuel injection system, **the fuel injector** communicates with a pressure booster 3 via a high-pressure supply line **2**. The high-pressure supply line [[2]] discharges into a work chamber 4 of the pressure booster 3. The work chamber 4 is separated via a booster piston 5 from a differential pressure chamber 6 that can be pressure-relieved and subjected to pressure. A face end of the booster piston 5 acts on a compression chamber 8 of the pressure booster 3. A restoring spring 7 is associated with the booster piston 5 of the pressure booster 3 and reinforces the restoring motion of the booster piston 5 to its position of repose. From the work chamber 4 of the pressure booster 3, an overflow line 9 extends to a switching valve 22.

Page 7, please replace paragraph [0022] with the following amended paragraph:

[0022] From the compression chamber 8 of the pressure booster 3, a pressure chamber supply line 11 extends to a pressure chamber 12, which is embodied in the body of a fuel injector. An injection valve member 13 is received in the body of the fuel injector. The injection valve member 13, in the region of the pressure chamber 12, has a pressure [[stage]] **shoulder** 14. The injection valve member 13 is urged in the closing direction on its upper face end via a closing spring 15 that is received in a control chamber. An annular gap 16 extends from the pressure chamber 12, and by way of it, when the pressure chamber 12 is subjected to pressure, fuel flows

to injection openings 17. The injection openings 17 discharge into a combustion chamber 18 of a self-igniting internal combustion engine.

Page 8, please replace paragraph [0026] with the following amended paragraph:

[0026] The slide seal 25 of the one-piece valve needle 23 is formed by a control edge 33 embodied toward the housing and a control edge 34 embodied toward the valve needle, and it is located ~~diametrically~~ **at the** opposite **axial end of chamber 29** from the sliding seat 24 on the low-pressure-side end of the one-piece valve needle 23.

Please replace paragraph [0027] with the following amended paragraph:

[0027] Advantageously, the valve needle 23 is embodied in one piece and is let into a valve housing 35 that is likewise embodied in one piece. The valve needle 23 is urged in the closing direction by a closing spring 36, so that the sliding seat 24, when the actuator 37 is not actuated, always closes off the second pressure chamber 29 from the low-pressure-side return 32.2. The sliding seat 24 may be embodied as a sealing edge or as a sealing face. In the variant embodiment shown in Fig. 1, the actuator 37 is embodied as a magnetic actuator, containing a coil 38. ~~Diametrically opposite from~~ **In opposed, spaced relation to** the lower annular face of the coil 38 of the magnetic actuator, the one-piece valve needle 23 has a plate 39.

Page 9, please replace paragraph [0029] with the following amended paragraph:

[0029] For the activation of the pressure booster 3, the differential pressure chamber 6 is pressure-relieved. This is done by means of triggering, that is, opening, of the switching valve

22, which can be done for instance by supplying electrical current to the magnet coil 38, causing the plate 39 on the top of the valve needle 23 to be drawn in the direction of the coil 38. As a result, the valve needle 23 moves upward. This causes the control edges 33, 34 of the slide seal 25 to overlap, closing the slide seal, while conversely the sliding seat 24 on the low-pressure-side end of the one-piece valve needle 23 opens. The result is a decoupling of the differential pressure chamber 6 from the work chamber 4, or in other words from the pressure source 1, and the differential pressure chamber 6 is pressure-relieved into the low-pressure-side return 32.2, via the control line 10 that discharges into the second pressure chamber 29 and via the open sliding seat 24. As a result, the booster piston 5 of the pressure booster 3 moves into the compression chamber 8, so that fuel under extremely high pressure moves from the compression chamber into the pressure chamber 12 via the pressure chamber supply line 11. The hydraulic force building up in the pressure chamber 12 engages the hydraulically operative face of the pressure [[stage]] **shoulder** 14 and moves the injection valve member 13, counter to the action of the closing spring 15, into an opening position, so that fuel flowing to the injection openings 17 from the pressure chamber 12 via the annular gap 16 can be injected into the combustion chamber of the engine.

Page 11, please replace paragraph [0032] with the following amended paragraph:

[0032] The pressure equilibrium of the switching valve 22 embodied as a direct-switching 3/2-way valve is attained by means of matching diameters 26 in the region of the sliding seat 24 and in the region of the valve needle 23; see the needle diameter 27 in the one-piece housing 35. As a result, ~~neither~~ **pressure exerted by** the fuel pressure prevailing in the first pressure chamber

28 [[nor]] **and by** the fuel pressure prevailing in the second pressure chamber 29 ~~exerts any forces~~ **results in no force** on the one-piece valve needle 23.

Please replace paragraph [0033] with the following amended paragraph:

[0033] Instead of the restoring spring 7, received in the differential pressure chamber 6, for reinforcing the restoring motion of the booster piston 5 into its position of repose, this ~~control~~ spring may also be accommodated in some other chamber of the pressure booster 3, or a restoring force may be generated hydraulically.

Page 14, please replace paragraph [0038] with the following amended paragraph:

[0038] In a two-piece valve housing 35, if a sliding seat 24 embodied as a flat seat is used, the sliding seat may be located in a valve housing part embodied as a sealing plate 35.2. This variant embodiment offers the capability of better accessibility for machining the sliding seat 24 of the slide seal 25 and the valve chambers of the valve. The variant embodiment of a direct-switching 3/2-way valve with a valve housing in more than one piece is shown in Fig. 3. The multi-piece valve housing 35 includes a first housing part 35.1, in which the valve needle 23 of the direct-switching switching valve 22 is guided. On the valve needle 23, which is embodied with a diameter 27, a plate 39 is embodied ~~which is diametrically opposite~~ **in opposition to** a magnet coil 38 and is acted upon in turn by the closing spring 36. The control edge 33 toward the housing is embodied in the first housing part 35.1 and cooperates with the control edge 34 toward the valve needle. The sliding seat 24 is embodied preferably as a flat seat. By means of the sliding seat 24, the low-pressure chamber 30 is sealed off. The low-pressure chamber can be

embodied, in a way that is especially simple from a production standpoint, as a blind bore, from which ~~a second~~ **the** low-pressure-side return 32.2 branches off. The control line 10 discharges into the second pressure chamber 29, and the overflow line 9 branching from the work chamber 4 of the pressure booster 3 discharges into the first pressure chamber 28. The second valve housing part 35.2 of the multi-piece valve housing 35 may be an independent component that is embodied separately from the injector body of a fuel injector. The second valve housing part 35.2, embodied as a sealing plate, may however be equally well formed by the injector housing itself.

Page 15, please replace paragraph [0040] with the following amended paragraph:

[0040] The switching valve 22 proposed according to the invention and embodied as a direct-switching 3/2-way valve can be used in pressure boosters 3 that are controlled via a control of the pressure in the differential pressure chamber 6. Depending on the design ratio of the pressure booster 3, a pressure elevation in its compression chamber 8 is effected, which is present via the pressure chamber supply line 11 in the pressure chamber 12**, which surrounds the injection valve member 13 in the region of a pressure shoulder 14** ~~because the injection valve member 13 in the region of pressure chamber 12 surrounding a pressure stage 14~~. The higher the pressure prevailing there, the higher an injection pressure can be attained at the injection openings 17 that discharge into the combustion chamber 18 of the engine.

Please add the following new paragraph after paragraph [0040]:

[0041] The foregoing relates to preferred exemplary embodiments of the invention, it being understood that other variants and embodiments thereof are possible within the spirit and scope of the invention, the latter being defined by the appended claims.

Please delete pages 16 and 17.